Swift Annual Water Use versus Stream Flow – Calendar Year 2003

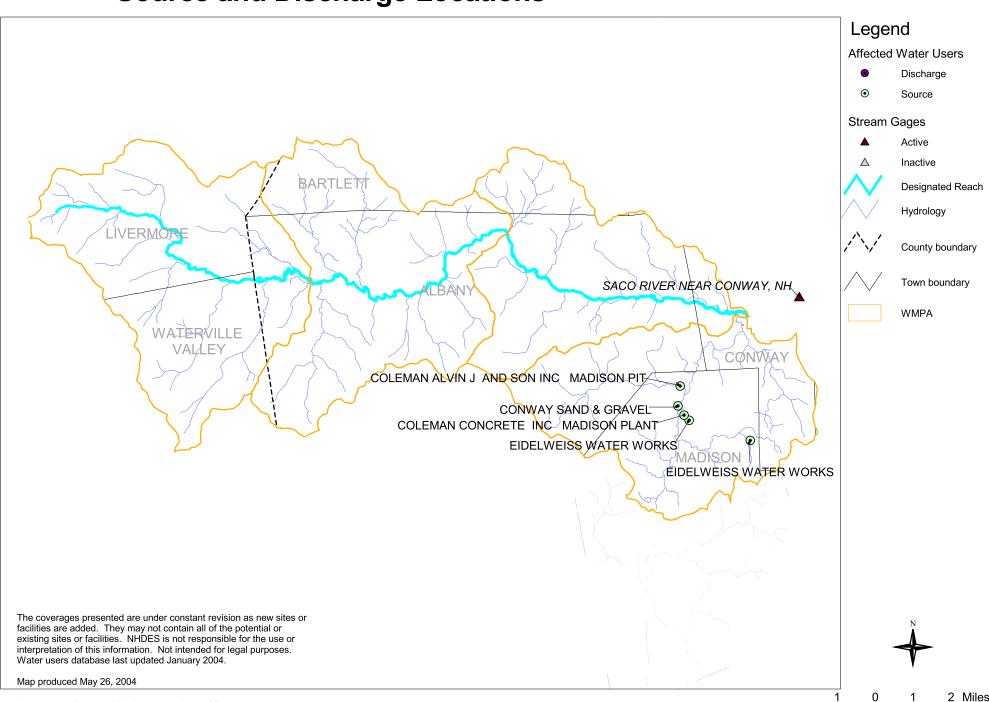
The Swift Water Management Planning Area covers 114 square miles. The Swift River is a tributary of the Saco River. There is a streamflow gage downstream in Conway (**USGS 01064500 Saco River near Conway, NH**) measuring the 385 square miles of watershed making up the Saco and Swift Rivers. For this report the streamflow was transposed areal from the gage to the impact point on the Designated River. There are four registered sources and no registered, measured returns in the Water Management Planning Area.

There were no months when the General Standard was exceeded.

The Swift River Water Management Planning Area has three Affected Water Users all of which are in the Pequawket Brook watershed, which impacts only the lowest reaches of the Designated portion of the Swift River. Only one of the AWUs, Alvin J. Coleman and Son Inc. gravel pit operation, reported water use in 2003. Water use by the gravel facility occurred only from April through December in 2003. A second gravel operation, Pike's Conway Sand and Gravel, has been inactive recently. Eidelweiss Water Works has not reported recently, but is still active. Water use for Eidelweiss has been year round. Water use data from 2001 for Eidelweiss was substituted for the 2003 data.

Swift River Affected Water User Facilities: Source and Discharge Locations

h:\water quality\instream flow\gisprojects\wmpa\Saco waterquality.apr



2003 Swift Water Use in CFS

| | | | DA on DR (SQ | | | | | | | | | | | | |
|-----------------------------|------------------------------|-----------------|-----------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| WU_NAME | FACILITY | WUSD_ID | MILE) | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| beginning of DR | headwaters | | 0.48 | 8 | | | | | | | | | | | |
| COLEMAN ALVIN J AND SON INC | MADISON PIT | 20539 20539-S01 | 114. | 1 0.000 | 0.000 | 0.000 | 0.064 | 0.071 | 0.048 | 0.335 | 0.292 | 0.358 | 0.331 | 0.264 | 0.034 |
| COLEMAN ALVIN J AND SON INC | MADISON PIT | 20539 20539-D01 | 114. | 1 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| PIKE INDUSTRIES INC | CONWAY SAND & GRAVEL | 20193 20193-S01 | 114. | 1 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| PIKE INDUSTRIES INC | CONWAY SAND & GRAVEL | 20193 20193-D01 | 114. | 1 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EIDELWEISS WATER WORKS | EIDELWEISS WATER WORKS | 20067 20067-S03 | 114. | 1 0.088 | 0.095 | 0.105 | 0.092 | 0.053 | 0.067 | 0.079 | 0.083 | 0.058 | 0.042 | 0.041 | 0.052 |
| EIDELWEISS WATER WORKS | EIDELWEISS WATER WORKS | 20067 20067-S02 | 114. | 1 0.017 | 0.017 | 0.018 | 0.022 | 0.013 | 0.015 | 0.011 | 0.010 | 0.008 | 0.011 | 0.010 | 0.012 |
| end of DR | Confluence of Swift and Saco | | 114.2 | 2 | | | | | | | | | | | |

2003 Swift Aggregate Water Use in CFS

DA on DR (SQ

| FACILITY | WUSD_ID | MILE) | JAN | FEB | 3 | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|------------------------------|------------|------------|--------------------------|------------------------------|------------------------------------|--|---|---|---|--|--|--|--|--|--|
| headwaters | | 0.48 | 0 | .00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 114.1 | 0 | .11 | 0.11 | 0.12 | 0.18 | 0.14 | 0.13 | 0.42 | 0.38 | 0.42 | 0.38 | 0.32 | 0.10 |
| Confluence of Swift and Saco | | 114.2 | 0 | .11 | 0.11 | 0.12 | 0.18 | 0.14 | 0.13 | 0.42 | 0.38 | 0.42 | 0.38 | 0.32 | 0.10 |
| | headwaters | headwaters | headwaters 0.48 114.1 | headwaters 0.48 0 114.1 0 | headwaters 0.48 0.00 114.1 0.11 | headwaters 0.48 0.00 0.00 114.1 0.11 0.11 | headwaters 0.48 0.00 0.00 0.00 114.1 0.11 0.11 0.12 | headwaters 0.48 0.00 0.00 0.00 0.00 114.1 0.11 0.11 0.1 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 114.1 0.11 0.1 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 114.1 0.11 0.1 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | headwaters 0.48 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |

USGS 01064500 Saco River near Conway, NH

DA(mi^2) 385 7Q10 (cfs) 96.7

| | Mean of | Mean of | | Calculated | |
|--------|----------------|-------------|-------------|------------|-------------|
| | daily | monthly | Median of | 2003 | General |
| | streamflows | streamflows | monthly | monthly | Standard in |
| | (2003) in cfs | (POR) in | means (cfs) | mean | cfsm |
| | (2003) III CIS | ft3/s | | streamflow | |
| Jan-03 | 569 | 569 | 442 | 1.48 | 0.04 |
| Feb-03 | 507 | 508 | 402 | 1.32 | 0.04 |
| Mar-03 | 1011 | 968 | 697 | 2.63 | 0.04 |
| Apr-03 | 1801 | 2630 | 2590 | 4.68 | 0.16 |
| May-03 | 1463 | 2221 | 2153 | 3.80 | 0.04 |
| Jun-03 | 668 | 847 | 713 | 1.73 | 0.04 |
| Jul-03 | 241 | 438 | 381 | 0.63 | 0.02 |
| Aug-03 | 1060 | 352 | 255 | 2.75 | 0.04 |
| Sep-03 | 701 | 388 | 285 | 1.82 | 0.04 |
| Oct-03 | 1953 | 639 | 439 | 5.07 | 0.16 |
| Nov-03 | 2035 | 948 | 823 | 5.29 | 0.16 |
| Dec-03 | 2353 | 760 | 633 | 6.11 | 0.16 |

2003 daily data availability

71.5% = number of days with data in 2003 / 365 days

Using POR average streamflow for this month

Using POR average daily streamflows for part of this month

^{*} from USGS WRI 02-4298

2003 Swift Estimated Monthly Stream Flow at Each Impact Point in CFS Calculated 2003

| | USGS 01064500 Saco River near Conway, NH | monthly mean streamflow in CFSM | | | 1.48 | 1.32 | 2.63 | 4.68 | 3.80 | 0 1.73 | 0.63 | 2.75 | 1.82 | 5.07 | 5.29 | 6.11 |
|------------------------------------|---|---------------------------------|--------------------------|-----|----------------|----------------|----------------|----------------|--------|----------|-------|--------|----------------|----------------|----------------|----------------|
| WU_NAME | FACILITY | WUSD_ID | DA on DR (SQ MILE) | JAN | FE | EB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| beginning of DR PEQUAWKET BROOK | headwaters | | 0.48 114.1 | | 0.71 168.77 | 0.63 150.31 | 1.25 299.74 | 2.23 533.90 | | | | | 0.87 207.79 | 2.42 578.87 | 2.52 603.13 | 2.92 697.45 |
| end of DR | Confluence of Swift and Saco | | 114.2 | 2 1 | 168.88 | 150.41 | 299.94 | 534.25 | 433.80 |) 197.97 | 71.40 | 314.37 | 207.92 | 579.25 | 603.52 | 697.90 |

2003 Saco Estimated Monthly General Standard at Each Impact Point in CFS General

| | | | Standard | | | | | | | | | | | | |
|-----------------|------------------------------|---------|-----------|------|------|------|-------|---------|------|------|-------|------|-------|-------|-------|
| | | | in cfsm | 0.04 | 0.04 | 0.04 | 0.16 | 0.04 | 0.04 | 0.02 | 0.04 | 0.04 | 0.16 | 0.16 | 0.16 |
| | | | DA on | | | | | | | | | | | | |
| | | | DR (SQ | | | | | | | | | | | | |
| WU_NAME | FACILITY | WUSD_ID | MILE) JAN | FEB | 8 M. | AR A | APR . | MAY JUN | N JU | L A | AUG S | SEP | OCT | NOV 1 | DEC |
| beginning of DR | headwaters | | 0.48 | 0.02 | 0.02 | 0.02 | 0.08 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.08 | 0.08 | 0.08 |
| PEQUAWKET BROOK | | | 114.1 | 4.56 | 4.56 | 4.56 | 18.26 | 4.56 | 4.56 | 2.28 | 4.56 | 4.56 | 18.26 | 18.26 | 18.26 |
| end of DR | Confluence of Swift and Saco | | 114.2 | 4.57 | 4.57 | 4.57 | 18.27 | 4.57 | 4.57 | 2.28 | 4.57 | 4.57 | 18.27 | 18.27 | 18.27 |

2003 Saco Estimated Monthly Margin of the Aggregate Water Use Below the General Standard in CFS $_{\rm DA\,on}$

DR (SQ

| WU_NAME | FACILITY | WUSD_ID | MILE) | JAN | | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----------------|------------------------------|---------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| beginning of DR | headwaters | | 0.4 | 8 (| 0.019 | 0.019 | 0.019 | 0.076 | 0.019 | 0.019 | 0.010 | 0.019 | 0.019 | 0.076 | 0.076 | 0.076 |
| PEQUAWKET BROOK | | | 114. | 1 | 4.5 | 4.5 | 4.4 | 18.1 | 4.4 | 4.4 | 1.9 | 4.2 | 4.1 | 17.9 | 17.9 | 18.2 |
| end of DR | Confluence of Swift and Saco | | 114. | 2 | 4.5 | 4.5 | 4.4 | 18.1 | 4.4 | 4.4 | 1.9 | 4.2 | 4.1 | 17.9 | 18.0 | 18.2 |



